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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
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EXAMINER

SANEI, HANA ASMAT

ART UNIT

PAPER NUMBER

2879

DATE MAILED: 01/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

DETAILED ACTION

Response to Amendment

The Preliminary Amendment, filed on 1/12/05, has been entered and acknowledged by the Examiner.

Claims 1-13 are pending in the instant application.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hendricx et al (WO 200067294 A1) in view of Bruninx-Poesen et al (US 4422011).

With respect to Claim 1, Hendricx teaches a metal halide lamp (Page 1, lines 1-2) comprising a substantially cylindrical discharge vessel (see at least Figure 2) having an internal diameter $D_i < 2.0$ mm (Page 2, lines 3-5) and filled

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with an ionizable filling (Page 1, lines 1-5), wherein two electrodes (4,5) are present at a mutual distance EA (refer to at least Figure 2), wherein the filling comprises an inert gas (Xe, Page 1, lines 24-26) having a pressure at room temperature between 5 and 25 bar (Page 4, lines 13-19).

Hendricx lacks an ionizable salt that is selected from the group comprising PrI_3 , NdI_3 , LuI_3 . In the same field of endeavor, Bruninx-Poesen teaches an ionizable salt that is selected from the group comprising PrI_3 , NdI_3 , LuI_3 (Col.4, lines 3-7) in order to ensure proper arc stability (Col. 2, lines 15-29). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to add the specified ionizable salt, as disclosed by Bruninx-Poesen, in the metal halide lamp of Hendricx in order to ensure proper arc stability.

With respect to Claim 2, Hendricx teaches the invention set forth above (see rejection in Claim 1 above). Hendricx lacks an ionizable salt further comprising NaI, and wherein the molar ratio $\text{NaI}/(\text{PrI}_{\text{sub.3}} + \text{NdI}_{\text{sub.3}} + \text{LuI}_{\text{sub.3}})$ lies between 1.0 and 10.3. In the same field of endeavor, Bruninx-Poesen teaches an ionizable salt further comprising NaI, and wherein the molar ratio $\text{NaI}/(\text{PrI}_{\text{sub.3}} + \text{NdI}_{\text{sub.3}} + \text{LuI}_{\text{sub.3}})$ lies between 1.0 and 10.3 (extrapolation numbers resulting from Tables corresponding to Examples 1-4 (for $D_i = 15.5$ mm) and Examples 5-8 (for $D_i = 11.5$)) in order to ensure proper arc stability (Col. 2, lines 15-29). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to add the specified ionizable salt, as disclosed by Bruninx-Poesen, in the metal halide lamp of Hendricx in order to ensure proper arc stability.

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With respect to Claim 3, Hendricx teaches the invention set forth above (see rejection in Claim 1 above). Hendricx lacks a molar ratio $\text{NaI}/\text{Prl.sub.3}$ lies between 2.3 and 10.3. In the same field of endeavor, Bruninx-Poesen teaches a molar ratio $\text{NaI}/\text{Prl.sub.3}$ lies between 2.3 and 10.3 (extrapolation numbers resulting from Tables corresponding to Examples 1-4 (for $D_i = 15.5$ mm) and Examples 5-8 (for $D_i = 11.5$)) in order to ensure proper arc stability (Col. 2, lines 15-29). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to add the specified ionizable salt, as disclosed by Bruninx-Poesen, in the metal halide lamp of Hendricx in order to ensure proper arc stability.

With respect to Claim 4, Hendricx teaches the invention set forth above (see rejection in Claim 1 above). Hendricx lacks an amount of Prl.sub.3 in the discharge vessel is between 10 and $335.\mu\text{mol}/\text{cm.sup.3}$. In the same field of endeavor, Bruninx-Poesen teaches an amount of Prl.sub.3 in the discharge vessel is between 10 and $335.\mu\text{mol}/\text{cm.sup.3}$ (extrapolation numbers resulting from Tables corresponding to Examples 1-4 (for $D_i = 15.5$ mm) and Examples 5-8 (for $D_i = 11.5$)) in order to ensure proper arc stability (Col. 2, lines 15-29). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to add the specified ionizable salt, as disclosed by Bruninx-Poesen, in the metal halide lamp of Hendricx in order to ensure proper arc stability.

With respect to Claim 5, Hendricx teaches the invention set forth above (see rejection in Claim 1 above). Hendricx lacks a molar ratio $\text{NaI}/\text{Ndl.sub.3}$ lies

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between 3.0 and 6.7. In the same field of endeavor, Bruninx-Poesen teaches a molar ratio NaI/NdI lies between 3.0 and 6.7 (extrapolation numbers resulting from Tables corresponding to Examples 1-4 (for $D_i = 15.5$ mm) and Examples 5-8 (for $D_i = 11.5$)) in order to ensure proper arc stability (Col. 2, lines 15-29). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to add the specified ionizable salt, as disclosed by Bruninx-Poesen, in the metal halide lamp of Hendricx in order to ensure proper arc stability.

With respect to Claim 9, Hendricx teaches that $D_i < 1.5$ mm (Page 2, lines 15-16).

With respect to Claim 10, Hendricx teaches that EA lies between 3 mm and 7 mm (Page 5, line 17).

With respect to Claim 11, Hendricx teaches that the discharge vessel has a ceramic wall (Page 1, lines 1-2).

With respect to Claim 12, Hendricx teaches that the discharge vessel is surrounded by a gas-filled outer bulb (Page 5, lines 22-23).

With respect to Claim 13, Hendricx teaches that the lamp power lies between 20 W and 40 W (Page 5, lines 11-13).

Allowable Subject Matter

Claims 6-8 are objected as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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The following is an examiner's statement of reason for allowance: The prior art of record neither shows nor suggests a metal halide lamp comprising all of the limitation set forth in Claims 6-8 respectively, particularly comprising the limitations of an amount of NdI_3 between 8 and 301 umol/cm^3 , a molar ratio of NaI/LuI_3 between 1.0 and 3.2, and an amount of LuI_3 between 15 and 414 umol/cm^3 , together with the other cited limitations.

Other Prior Art Cited

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Maseki et al (US 5220244 A) teaches a metal halide discharge lamp comprising NdI_3 .

Dakin et al (US 5363015 A) teaches an arc discharge lamp containing PrI_3 and/or NdI_3 .

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hana A. Sanei whose telephone number is (571) 272-8654. The examiner can normally be reached on Monday- Friday, 9 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner
Hana A. Sanei

HAS
12/27/05

Joseph Williams
JOSEPH WILLIAMS
PRIMARY EXAMINER